

We claim:

IAP20 Rec'd 10 JAN 2006

1. A process for preparing diaminodiarlymethanes comprising the steps
 - 5 a) reacting an aromatic amine with a methylene-donating agent in the presence of homogeneous acid catalysts,
 - b) removing the homogeneous acid catalyst from the reaction product,
 - 10 c) working up and purifying the reaction product,which comprises removing the homogeneous acid catalyst from the reaction mixture by adsorption to a solid adsorbent and the adsorbent is regenerated with the amine which is used as the feed product of the process.
- 15 2. The process according to claim 1, wherein the adsorbent is a basic ion exchanger prepared on the basis of higher oligomers of diphenylmethanediamine or on the basis of functionalized support material.
- 20 3. The process according to claim 1, wherein the base strength of the adsorbent differs by +/- 1.0 pK_B units from that of the aromatic amine in aqueous solution.
4. The process according to claim 1, wherein the base strength of the adsorbent differs by +/- 0.5 pK_B units from that of the aromatic amine in aqueous solution.
- 25 5. The process according to claim 1, wherein the acid homogeneous catalyst is desorbed by the aromatic amine and recirculated to the reaction.
6. The process according to claim 1, wherein the reaction in step a) is carried out semicontinuously.
- 30 7. The process according to claim 1, wherein the aromatic amine is selected from the group comprising aniline and alkyanilines having from 1 to 3 carbons in the alkyl chain.
- 35 8. The process according to claim 1, wherein the aromatic amine is selected from the group comprising aniline and o-toluidine.
- 40 9. The process according to claim 1, wherein the methylene-donating agent is formaldehyde.

AMENDED SHEET

10. The process according to claim 1, wherein the formaldehyde is used as aqueous formalin solution or paraformaldehyde.
- 5 11. The process according to claim 1, wherein the molar ratio of aniline to formaldehyde is greater than 2.
12. The process according to claim 1, wherein the molar ratio of acid to aniline is greater than 0.05.
- 10 13. The process according to claim 1, wherein mineral acids are used as homogeneous acid catalysts.